

# **LONG BEACH AIRPORT**

## **Final Air Carrier Noise Budget Analysis Report & Charts**

**October 12, 2004**

# Air Carrier (Airline) Flight Limits

- Minimum of 41 flights for airlines
- Minimum of 25 flights for commuters
- At end of budget year more flights may be allocated if airlines/commuters are operating below budget limits
  - and newly allocated cannot result in budget exceedance
- Noise Budget Year (NY) October - September

# How Does the Budget Work?

- Calculated flight by flight
  - number of operations
  - loudness of the operation
    - » loudness at nearest homes to main runway
    - » 3dB louder counts as 2 flights
    - » 10dB louder counts as 10 flights
  - time of day of operation
    - » evening (7pm - 10pm) flight counts as 3 flights
    - » night (10pm - 7 am) flight counts as 10 flights
    - » no late night waivers or exceptions for the noise budget
    - » time determined by time of flight over noise monitors, not takeoff time

# Noise Budget Foundation

- Initial concept:
  - 100 budget units that produce 65 CNEl at the nearest residence
    - » Goal to not exceed 65 CNEl at nearest residence
- Base Year 1989/1990
  - noise at nearest residence exceeded 65 CNEl
  - Industrial noise budget increased to accommodate future growth
- Noise Budget Allows Noise To Exceed 65 CNEl
  - 65.1 north of airport
  - 65.8 south of airport

**LONG BEACH AIRPORT**  
Noise Monitoring Locations  
with Distances to/from Monitors

# Noise Monitors

**MONITOR #9 - \***

Distance from Rwy 30:  
Full Length - 13,500 ft  
At Twy J - 9,400 ft  
Distance to Rwy 12:  
Displaced Threshold - 5,000 ft

**MONITOR #6 - \***

Distance from Rwy 25R:  
Full Length - 7,260 ft  
Distance to Rwy 7L:  
Displaced Threshold - 2,735 ft

**MONITOR #5**

Distance from Rwy 25L:  
Full Length - 9,590 ft  
At Twy D - 8,200 ft  
Distance to Rwy 7R: 4,200 ft

**MONITOR #1 - \***

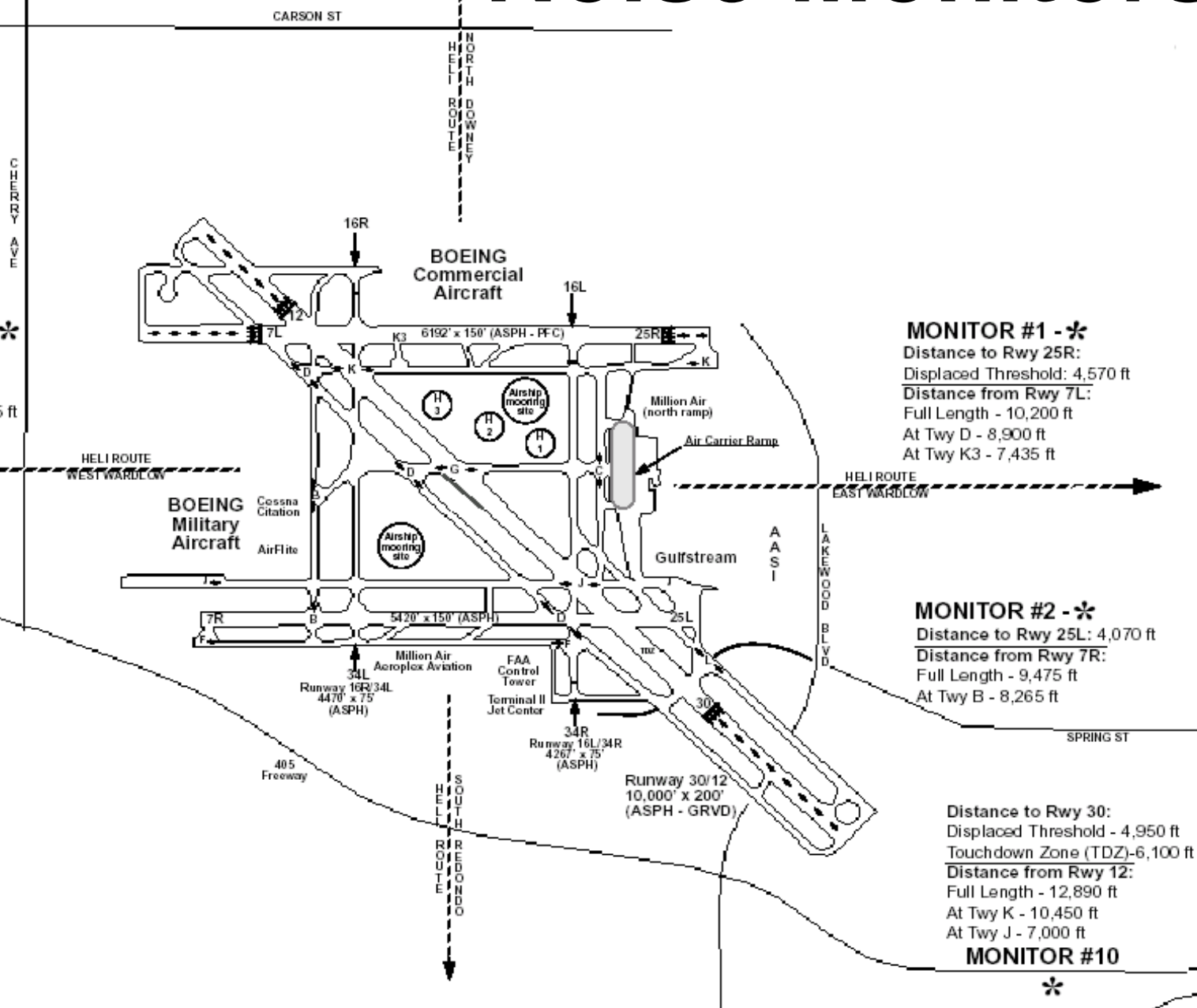
Distance to Rwy 25R:  
Displaced Threshold: 4,570 ft  
Distance from Rwy 7L:  
Full Length - 10,200 ft  
At Twy D - 8,900 ft  
At Twy K3 - 7,435 ft

**MONITOR #2 - \***

Distance to Rwy 25L: 4,070 ft  
Distance from Rwy 7R:  
Full Length - 9,475 ft  
At Twy B - 8,265 ft

Distance to Rwy 30:  
Displaced Threshold - 4,950 ft  
Touchdown Zone (TDZ)-6,100 ft  
Distance from Rwy 12:  
Full Length - 12,890 ft  
At Twy K - 10,450 ft  
At Twy J - 7,000 ft

**MONITOR #10**



# Example of Budget Operations Calculations

	1 Eq. Op. = 94.400 SEL									Time Based Theoretical Equivalent # of Ops.			Actual Equiv Ops.
							Adj. To Nearest Residence						
Max. Date Time	A/C	AIR	A/D	RUNWAY	RMT	SEL		Adj. SEL	D/E/N	Day	Eve.	Night	
10/2/02 7:06	MD80	AAL	D	30	9	99.7	1.1	100.8	DAY	4.4	13.1	43.7	4.4
10/1/02 7:09	A320	JBU	D	30	9	89.8	1.1	90.9	DAY	0.4	1.3	4.5	0.4
10/1/02 7:11	A320	AWE	D	30	9	88.2	1.1	89.3	DAY	0.3	0.9	3.1	0.3
10/1/02 7:17	A320	JBU	D	30	9	94.7	1.1	95.8	DAY	1.4	4.1	13.8	1.4
10/1/02 8:02	A320	JBU	D	30	9	90.0	1.1	91.1	DAY	0.5	1.4	4.7	0.5
10/1/02 8:40	MD80	AAL	D	30	9	98.8	1.1	99.9	DAY	3.5	10.6	35.5	3.5
10/1/02 8:42	MD80	AAL	D	30	9	98.9	1.1	100	DAY	3.6	10.9	36.3	3.6
10/1/02 9:43	A320	AWE	D	30	9	89.8	1.1	90.9	DAY	0.4	1.3	4.5	0.4
10/1/02 10:20	A320	JBU	D	30	9	94.1	1.1	95.2	DAY	1.2	3.6	12.0	1.2
10/1/02 22:07	A320	JBU	D	30	9	94.2	1.1	95.3	NIT	1.2	3.7	12.3	12.3
10/2/02	MD80	AAL	D	30	9	100.9	1.1	102	DAY	5.8	17.3	57.5	5.8

# Budget Results

## Noise Year '03 -04

	Allowed	Actual
<u>Location</u>	<u>Budget</u>	<u>Budget Used</u>
RMT 9	70.7	65.1
RMT 10	84.6	81.7

# Monthly Budget Status

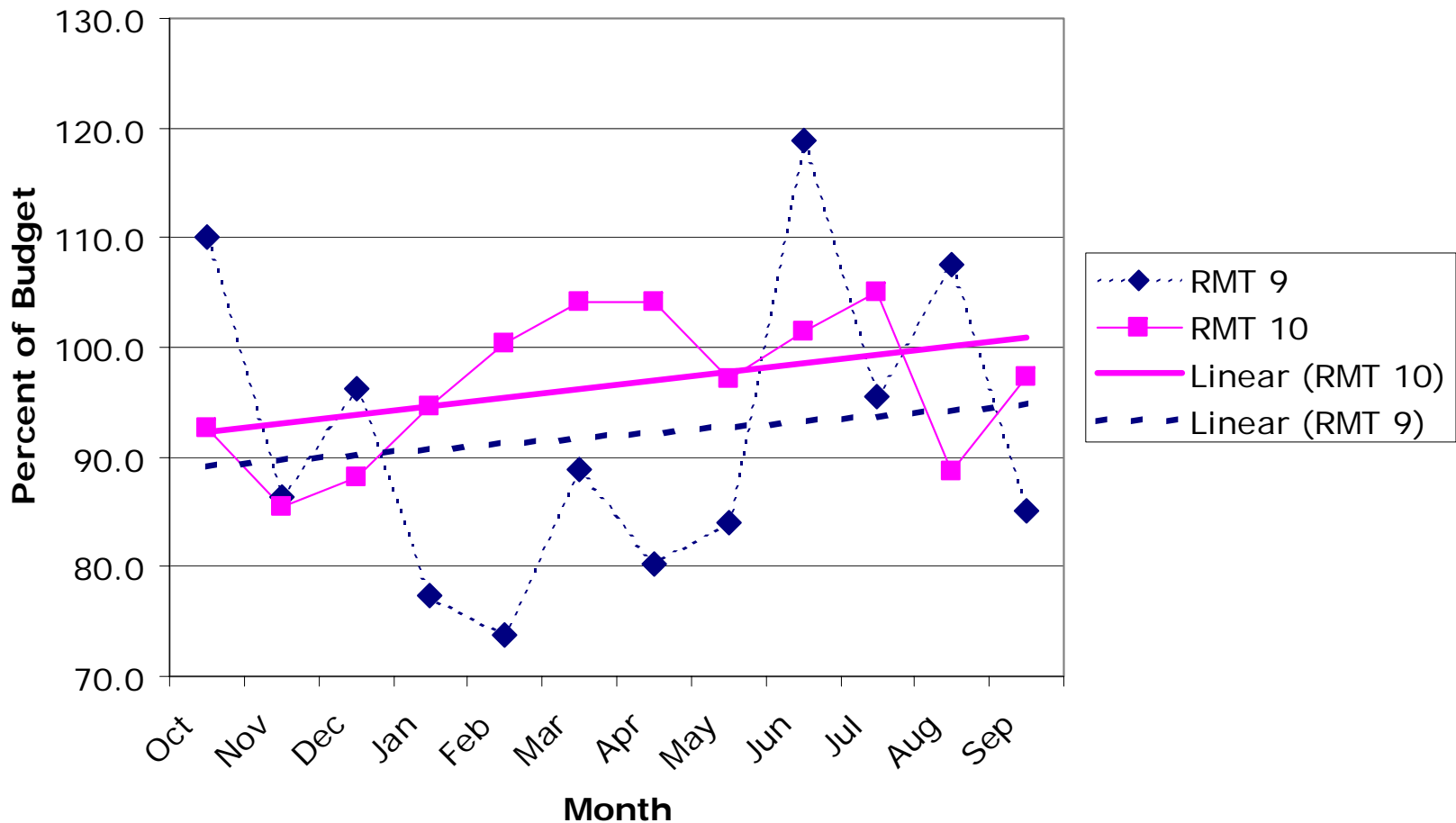
**Table 1 Summary of Monthly and Cumulative Budget Status**

	UNADJUSTED RWY 25		ADJUSTED		Monthly		Year To Date		Cumulative			
	RMT 9	RMT 10	RMT 9	RMT 10	RMT 9	RMT 10	Budget Status	Cumulative Budget Status	RMT 9	RMT 10	Budget Status	Budget Status
Month	Eq Ops	Eq Ops	Eq Ops	Eq Ops	Eq Ops	Eq Ops	RMT 9	RMT 10	RMT 9	RMT 10	RMT 9	RMT 10
October	77.8	78.3	0.0	0.0	77.8	78.3	Over	ok	77.8	78.3	Over	ok
November	61.1	72.3	0.0	0.0	61.1	72.3	ok	ok	69.6	75.4	ok	ok
December	68.1	74.5	0.0	0.0	68.1	74.5	ok	ok	69.0	75.1	ok	ok
January	54.7	80.1	0.0	0.0	54.7	80.1	ok	ok	65.4	76.3	ok	ok
February	52.2	84.9	0.0	0.0	52.2	84.9	ok	Over	63.3	78.5	ok	ok
March	62.8	88.0	0.0	0.0	62.8	88.0	ok	Over	63.0	79.6	ok	ok
April	56.8	88.1	0.0	0.0	56.8	88.1	ok	Over	62.1	80.8	ok	ok
May	59.3	82.2	0.0	0.0	59.3	82.2	ok	ok	61.7	81.0	ok	ok
June	84.0	85.8	0.0	0.0	84.0	85.8	Over	Over	64.2	81.5	ok	ok
July	62.1	78.7	5.5	10.1	67.6	88.8	ok	Over	64.5	82.3	ok	ok
August	73.6	71.0	2.5	4.0	76.1	75.0	Over	ok	65.6	81.6	ok	ok
September	58.0	78.6	2.1	3.7	60.1	82.3	ok	ok	65.1	81.7	ok	ok
Budget:									70.7	84.6		
Below Budget:									5.6	2.9		



# Plot of Monthly Budget Status

Exhibit 1: Budget Year 2004 By Month



# Effect of Fleet Changes

- Had the MD80's been utilized the entire year the noise budget would have been exceeded at RMT 9.
- Had the B757 been utilized the entire year the budget would have been exceeded at RMT 10.
- The net effect of the changes in aircraft type was the air carrier budget averaged to a value below the allocated budget.

# Conclusion

- The Long Beach Ordinance provides for allocating additional flights for the next budget year if it is clear that such additional flights will not cause the air carrier budget to be exceeded.
- Based upon our findings, additional flights cannot be allocated with the assurance that NY '04-05 budget will not be exceeded.

